

Collective Reputations Affect Donations to Charities

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Abstract

Organizations are often linked via a common reputation within their industry or sector such that publicity about one organization can spill over to affect the prospects of its peers. The linkages of common reputations may be particularly pronounced among nonprofits because important dimensions of their quality are difficult to observe directly. In this paper we show that when the third-party evaluator Charity Navigator rates charities, it also identifies rated peers, creating a collective reputation among charity groups. Through an analysis of 3,120 charities from 1993 through 2008, we find that donations to charities rated by Charity Navigator rise and fall with the published Charity Navigator ratings of their peers. The presence of collective reputations has important implications for charity management practices, such as collective self-regulation programs.

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A consumer often relies on sellers' reputations to guide their choices when evaluating the quality of alternatives is difficult. A car owner selects repair shops based on their reputation for honesty and quality. A student choosing among colleges and universities can look to reputations to assess the quality of education she might receive. An organization's reputation is its potential consumers' assessment of the quality of its products where information is otherwise lacking. Positive reputations are valuable in markets with asymmetric information because they can facilitate exchanges for higher quality products and prices. The information upon which reputations are built comes from a variety of sources, including the consumers' own observations, referrals from others, and third party ratings such as Consumers Reports magazine.

A potentially important information source about a firm is the performance of other firms that are similar to it. A collective reputation exists among a group of firms or charities to the extent consumers infer individual quality based on observable characteristics common to its group. Firms in an industry often find themselves "tarred by the same brush;" when one firm is revealed to have been behaving badly, the reputation of its peers also suffers as people believe they are also behaving badly. Documenting collective reputations demonstrates important consequences for how firms and their consumers behave. Consumers may change their buying decisions based on collective reputations. A series of recalls in 2010 damaged Toyota's reputation for quality and may have made consumers more skeptical about the quality of other Japanese carmakers as well. Collective reputations indicate a collective action problem among firms and charities: the benefits of a positive reputation accrue to the entire group, though the costs of producing it are born by each.

While the theoretical case for the importance of collective reputations in information scarce markets has been well developed (Tirole 1996, Levin 2009), documentation of their effects in real world markets has been scarce. Empirically studying individual

reputations is challenging, and collective reputations significantly more so because measurement of the existence and quality of reputation is difficult in information scarce contexts. Along with the usual challenges with persuasively identifying causality, it is difficult to find reputational measures that allow for comparisons across multiple organizations.

In this paper, we study collective reputations among charities in the United States. Charities are fertile ground for studying collective reputations because many of their products are credence goods whose quality cannot be verified even after donations have been made, are collective goods whose existence is difficult to trace to a charity's efforts, and prices in the nonprofit economy are weak signals of quality. In such settings donors may often infer a charity's quality based on what they know about the charity's peers, such as nearby charities providing similar goods and services. The "Three Cups of Tea" episode offers an illustrative example of how a scandal at one charity can have negative consequences for its peers. Greg Mortenson's charity the Central Asian Institute had enjoyed a large fundraising boost after publication of his bestselling book "Three Cups of Tea," written in 2007 (with David Relin). But within a few years came a series of allegations that parts of the book were inaccurate and that the charity had high overhead costs and was mismanaging funds. The scandal not only hurt fundraising for Mortenson's Central Asian Institute, but for other similar international development charities (McWhirter 2011).

Our research investigates how donors and charities respond to collective reputations using a unique data source about charities' quality. Since 2002 the website Charity Navigator has been publishing quality ratings for thousands of US charities, with additional charities rated each year. These ratings, presented through an easy to understand metrics of zero to four stars, have become a widely used by donors seeking information about charities' quality, with Charity Navigator's website receiving al-

most 100,000 visitors per week and many charities publicizing their favorable Charity Navigator ratings. We combine the Charity Navigator ratings with data on charities' finances from their IRS form 990 filings and the US Census of Governments (2012). We collect additional historical tax data for periods before the charities were rated. Because Charity Navigator uses information from IRS 990 forms, we replicate its rating algorithm to generate ratings for charities who did not have published ratings from Charity Navigator. Charity Navigator's ratings also publicize the membership of a charity's peer group and the quality ratings of those peers, allowing us to identify how donors respond to publication of a charity's own ratings and the identification and ratings of its peers.

The question motivating this paper is whether or not collective reputations among charities exist. A collective reputation would cause the donations for a charity to rise when donors receive new information about its peers, even if the charity's own performance is otherwise unchanged. For this to occur, donors would need to first identify a charity's peer group and then use its collective reputation to infer the charity's quality. We address Charity Navigator's role in both of these effects. The overall conclusion of our analysis, based on 3,120 charities with over 60,000 ratings (40,000 unpublished and 20,000 published), is that when Charity Navigator publishes a charity's rating, it creates a collective reputation among that charity and its previously rated peers. We define a peer group as those charities in the same state and category of mission. In our analyses, donations received by a charity with published Charity Navigator ratings increase (decrease) by about 3.6 percent when the average published Charity Navigator ratings of its peers increase (decrease) by one star. Meanwhile, donations received by charities with both unpublished Charity Navigator ratings are unaffected by the published and unpublished Charity Navigator ratings of their peers. Taken together, this pattern of results suggests that Charity's Navigator ratings inform donors

about both who is in a charity’s peer group and how well the peer group members are performing.

Our study has important implications for charities and for other markets that lack information. The nonprofit sector in the United States accounts for over ten percent of US gross domestic product, and as we show in this paper, the challenges of collective reputations are common among charities. More generally, the characteristics of the nonprofit economy — information scarcity caused by weak price signals for credence goods — exist in other economic spheres, such as health care, education, consumer electronics, plumbers (See Dranove & Jin 2010). Documenting collective reputations is important because a large swath of nonprofit, firm and consumer behavior — from product differentiation to collective self governance — is premised on the assumption that a firm or nonprofit’s prospects rise and fall with stakeholders’ evaluations of its peers. Much self-regulation may be industries’ attempts to solve this reputational collective action problem. Recently, the Chemical Manufacturers Association created a self-regulation scheme called Responsible Care in an effort to solve its members’ collective reputation problem (Barnett & King 2008).

The next section presents the paper’s theoretical motivation, including discussions of individual and collective reputations. The third section details the data and analytic approach. The fourth section presents the results and the final section concludes the paper.

1 Theoretical Motivation

The study of reputations has occupied scholars in several academic disciplines, in part because so much social interaction occurs under asymmetric information conditions. Management scholars have examined how firms manage their reputation

to achieve strategic advantage (Weigelt & Camerer 1988, Fombrun & Shanley 1990, Yu, Sengul & Lester 2008). Economists have investigated reputations in market exchanges (Klein & Leffler 1981), government corruption (Tirole 1996) and agricultural commodities (Winfree & McCluskey, 2005). Political scientists have found organizational reputations to be a central concern of political parties (Aldrich 1995) and government bureaucracies (Carpenter 2010).

Klein & Leffler and (1981) first began to formalize the notion that a seller’s reputation can help solve information problems between buyers and sellers. The theory has since been more fully developed and extended, notably by Shapiro (1983) and Rogerson (1983) among others (MacLeod [2007] provides a useful summary). A seller’s reputation is its potential consumers’ expectations about the quality of his products. Reputations become relevant in markets with incomplete information: the quality of goods is potentially variable, buyers have heterogeneous tastes for quality, and buyers cannot evaluate some salient qualities of the good before purchase. Individual seller reputations are possible when buyers can trace which sellers made the good¹, and can make repeat purchases from the same seller. To build a positive reputation, sellers initially invest in producing higher quality products to be sold at less than production costs (cites). As buyers learn from buying and have increasing confidence in the seller’s product quality, the seller can recoup its investment by raising prices above production costs because the seller’s positive reputation makes buyers more willing to pay the premium. Reputations give sellers incentives to forego the gains from short-term opportunism in return for receiving a “quality” price premium from buyers seeking higher quality products.

¹In some industries, consumers are unable to trace the production of the good to individual producers (Winfree & McCluskey, 2005; McQuade, Salant, & Winfree, 2010), such as when the supply of spinach in a region is contaminated with salmonella. It can be very difficult to find the contaminations source among the many suppliers.

The nonprofit sector offers a fertile context for individual and collective reputation effects between charities and their donors. Consumers care about charities' quality, but lack information about which charities are doing better than others. Credible signals of charities' quality are often quite rare (Schlesinger et al. 2004). A charity may claim that a \$50 donation will provide 10 meals to the homeless, but donors may not know whether the food is nutritious and reaching the truly needy. Also, charities often produce credence goods that donors do not directly experience even after making their donations. Few donors visit the homeless shelter they support and fewer still eat any meals there. Finally, charities' products often have public goods attributes, with several governments and charities involved in joint production, making it difficult for donors to allocate credit for product quality. A meal for the homeless might be prepared by volunteers from one charity, served in a building operated by another, using food donated by businesses and other nonprofits, and with the whole operation receiving government subsidies.

Charities exist in settings where their reputation can provide information about the quality of their products. As new information becomes available about a charity in one area, donors can update their beliefs about its performance in other areas. Potential donors are likely to infer that a homeless shelter found to be misallocating funds is also unlikely to provide nutritious meals. Donors can also learn about a charity's quality through indirect means, such as third party ratings. Charities earning more favorable ratings from Charity Navigator charities receive more donations than similar charities receiving less favorable ratings (Grant 2010, 2011).²

One potential external source of information about a charity is information about similar charities. A homeless shelter caught misallocating funds may cause donors

²Note that because previous research has studied how a charity's reputation affects its own donations and behavior, we focus our inquiry here on information's externality effects among peer charities.

to doubt the integrity of nearby homeless shelters. Such informational spillovers suggest that a collective reputation can exist among charities to the extent donors infer the quality of a charity based on information about similar charities. Tirole (1996) first explicitly formalized the notion of collective reputations, with extension by Levine (2009). As with individual reputations, collective reputations can occur in markets with information asymmetry, with buyers able to observe sellers' membership in groups but having imperfect information about sellers' product quality. Donors can infer a charity's quality based on what they know about its peers with whom it shares observable characteristics. Charities have a collective reputation to the extent their potential buyers believe a group's shared observable qualities signal information about its members unobservable qualities. For collective reputations to matter, donors must first recognize a peer group of charities based on a common observable characteristic, such as the charities are all providing meals to the homeless in the same region. The donors must then also believe that unobservable characteristics about a charity — such as the quality of the meals it serves — can be inferred from the observable characteristics of its peers — whether they have been caught in a fundraising scandal.

Formulating collective reputations through this theoretical lens suggests several potential implications for charities' fundraising efforts and their success. Perhaps most directly, with a collective reputation donors use new information about a charity's peers to infer its own performance. A charity's donations may increase when positive information is revealed about its peers and decrease with negative peer information. Note that new information might also have a countervailing substitution effect, in which new negative information about a charity's peers causes donors to increase contributions to that charity as they move their donations away from its peers. Likewise, with a substitution effect, positive information about peer charities causes donors to decrease donations to that charity as they move their donations to

the more attractive peers. The collective reputation effect and substitution effects thus work in opposite directions. Our empirical approach is described below.

2 Charity Navigator and the Creation of Collective Reputation

Since its launch in 2002, Charity Navigator has become the largest third party charity evaluator in the United States. Charity Navigator's most famous ratings are the number of stars it awards a charity, ranging from 0 to 4, indicating respectively 'exceptionally poor', 'poor', 'needs improvement', 'good', and 'exceptional' performance. The star rating is itself a composite of seven other ratings that Charity Navigator develops based on its measurement dimensions of charity's quality, such as the ratio of operating costs to program spending and overall debts. Charity Navigator adjusts its ratings to account for a charity's size and policy area, so that the expense ratio of a homeless shelter is different from a humane society. The star ratings are publicized more prominently on Charity Navigator's website (www.charitynavigator.com) and is what is overwhelmingly reported in the media and by the charities themselves when discussing their ratings. All of the components of Charity Navigator's ratings come from data publicly available on the charities' IRS 990 forms.

Charity Navigator's ratings have become an important fixture in the nonprofit sector. Rated charities receive a substantial portion of the total annual donations to all US charities, totaling over \$10 billion annually. Charity Navigator's website boasts almost 100,000 visitors per week, with the number spiking higher after major disasters at the end of the tax year, and many charities publicize favorable Charity Navigator ratings. On March 12, 2012, the Boston based charity City Year issued

a press release headlined “City Year Receives Coveted 4-Star Rating From Charity Navigator for Eighth Consecutive Year” (United Business Media, 2012). Charity Navigator’s ratings have become widely recognized and respected in popular writing. Financial advice columnists often advise readers to consult Charity Navigator to guide their philanthropic efforts (Shah 2013).

Charity Navigator publishes its evaluation of a charity on a single webpage, displaying most prominently at the top the charity’s name and the number of stars in its overall rating. The page lists information about the charity, such as its location and policy area, along with a link to a page containing the seven specific ratings and other information about the charity.³ The bottom of the page shows a list of “charities performing similar types of work,” along with their location city and their Charity Navigator star ratings. Charity Navigator is essentially identifying charities’ peers by publicizing such “similar type of work” group. In short, Charity Navigator’s function is to aggregate and publicize already existing information from IRS 990 forms about charities’ policy area, geography and performance along several financial dimensions. Charity Navigator reports prominently three pieces of information about a charity: its own star rating, the identity of several peer charities (who perform in the same policy area and location), and the star ratings of those peers.

The Charity Navigator and IRS 990 form data offer several advantages for studying collective reputation effects among charities. First, the available IRS data begin in 1995 and CN publications of ratings begin in 2002, starting with 688 rated charities and with about 750 additional charities receiving ratings each year, allowing us to use the co-existence of rated and unrated charities each year along with the additional rat-

³Charity Navigator’s webpages now include additional information on charities to reflect changes in its evaluation algorithm begun in 2011. The websites now report on whether charities have accountability and transparency practices, such as independent voting board members and whistleblower policies.

ings of previously unrated charities. Charity Navigator updates its published ratings on an approximately annual cycle using the most recently available IRS 990 forms. Second, Charity Navigator's ratings are based on information publicly available via their IRS 990 forms, allowing us to replicate Charity Navigator's scoring algorithms to impute the overall star and seven dimensions ratings for all unrated charities. Third, we can also approximate Charity Navigator's approach for identifying charities' peers by classifying them by policy areas and then geographically by the state in which they operate. Our data includes charities with published and unpublished (imputed) Charity Navigator ratings along with their peers published and unpublished ratings.

The features of our data allow us to further isolate potential means by which Charity Navigator ratings can influence collective reputations. For a collective reputation to exist among charities, donors must identify charities as belonging to a peer group and infer a charity's quality based on their views about its peers' qualities. Our analyses use the unpublished peer group ratings to evaluate whether a collective reputation exists among charities in the absence of Charity Navigator ratings and the published peer group ratings to evaluate whether Charity Navigator's ratings change or create a collective reputation. First, if consumers are generally well informed about the identity of a charity's peers and uses information about them to evaluate the charity, we would expect to see collective reputation effects among charities that have not been rated by Charity Navigator. In this case, donations to charities with unpublished (imputed) Charity Navigator ratings would rise and fall with the unpublished ratings of their peers. Second, if consumers are not sufficiently informed about charities, Charity Navigator may create the conditions for a collective reputation when it publishes charities' ratings and identifies their peers. Evidence of this would be if a charity's donations rise and fall with its peers' reputation only when Charity Navigator has published its rating of that charity (and thereby identified its

peers to potential donors) and the ratings of its peers. Third, if a collective reputation exists among charities, and Charity Navigator does nothing to enhance it, we would see charities' donations rise and fall with their peers' reputation at the same rate when the charities' and their peers' ratings are published and unpublished. Of course, findings that charities' donations do not change with their peers' reputations, regardless of whether the charities or their peers had published Charity Navigator ratings, would suggest the absence of any collective reputation.

3 Data Description

Our data combine charity ratings information published by Charity Navigator with information from charities' IRS 990 forms, along with other data from the US Census of Governments. Charities with donations exceeding \$25,000 must disclose revenue and expenses annually in Internal Revenue Service (IRS) form 990. The data cover the years 1993 through 2008 for 3,120 charities, of which 688 had published Charity Navigator rankings in 2002 (Charity Navigator's first year publishing rankings) and with over 5,000 published rankings in 2008. Charities are rated for a median of 6 years in our data. We classify charities into 346 peer groups by matching them with charities performing in the same policy area and state.

The dependent variable, *Donations*, is the amount of money a charity receives from public contributions in a year, excluding income from government sources and from private sales, as reported on charities' IRS 990 forms. The average charity in our data received \$14 million in annual donations and a median of \$2.8 million.

As discussed previously, the presence of a collective reputation is hypothesized to cause a charity's donations to rise and fall with the collective reputation of its peers. A particularly useful feature of the Charity Navigator data is that we are

able to impute the ratings for charities without published ratings. The formula for calculating stars was available on the Charity Navigator website. They create 7 metrics, each worth 10 points, based on expenses, revenue, and the trends over time. Charity Navigator then converts the total numeric scores (ranging from 0 to 70) to a 0- to 4-star system using fixed cutoff points; for example greater than 60 is 4 stars. Our replication was highly successful: the correlation between our imputed ratings and Charity Navigator’s published rating is .99. Below we refer to imputed ratings as the charity’s “unpublished” ratings to highlight the fact that Charity Navigator’s function is to aggregate and publicize information that already exists in readily available forms.

We measure peer group reputation with four approaches that differ based on whether Charity Navigator has published the star ratings of the charity and its peers. *OwnUn_PeerUn* is the average star rating of a charity’s peer group when the star rating of the charity and its peers are both unpublished. *OwnUn_PeerPub* is the average star rating of a charity’s peer group when the star rating of the charity is published and the star ratings of its peers are not. *OwnPub_PeerUn* is the average star rating of a charity’s peer group when the star rating of the charity is not published and the star ratings of its peers are published. *OwnPub_PeerPub* is the average star rating of a charity’s peer group when the star ratings of both the charity and its peers are published. The difference between the published and unpublished (imputed) star ratings is that the published star ratings aggregate and publicize information that is already publicly available. Differences in the effects of published and unpublished peer ratings on the donations received by charities whose own ratings are published and unpublished can shed light on whether a collective reputation exists among charities and whether the collective reputation changes when Charity Navigator publishes its star ratings.

Other variables serve as controls in our analyses. Since Charity Navigator ratings

can influence the donations charities receive, we include the a vector of dummy variables for published star ratings for charities rated by Charity Navigator (*StarPub*), following the approach used in Grant (2010). For charities without published Charity Navigator star ratings we use their unpublished (imputed) star ratings (*StarUn*), also a vector of the five possible star ratings. We recreate Charity Navigator’s assessment of seven dimensions of charities’ performance, which are weighted and combined via algorithm into a measure (*Score*) scaled from 0 to 70. *Score* provides a time varying measure of charity quality. *Program spending* is the charity’s funds spent on producing and delivering its goods and services. *Fundraising* is the amount of money a charity spends to attract donations, which excludes money spent on administration, overhead, and direct provision of the charity’s good or service.⁴ *Assets* measures a charity’s financial resources, measured by amount of cash, buildings, equipment and other capital. The variable is important to include in the regression, because if a charity is investing or saving money, it may not have to fundraise as much. *Liabilities* measures the amount of owed claims against a charity. *State spending* controls for state government spending in the charities’ policy areas. For example, state spending on “parks and recreation” is mapped to the charity category of “Animals.” A full list of mappings is available upon request.

Table 1 reports descriptive statistics. The variables *Donations*, *Fundraising*, and other expenses are log-transformed because of the large variation across charities and for ease of interpretation: reported coefficients are roughly percent changes. Insert or append tables.

⁴Fundraising is the number from line XXX in the YEAR IRS 990 form and Contributions is form line XXX. DEPENDS ON YEAR; forms change.

4 Empirical Analysis

Our empirical strategies examine whether charities' donations vary directly with the collective reputation of their peers. We assess whether these effects across cases where a charity's Own ratings is Unpublished or published given its Peer group's unpublished or published ratings. This allows us to evaluate whether a collective reputation existed **among charities in the absence of Charity Navigator and whether publicizing its ratings** created a collective reputation that influenced donors' decisions. We estimate models of the following forms

$$\begin{aligned}
 Donations_{it} = & \beta_1 OwnUn_{peerUn}_{it} + \beta_2 OwnUn_{peerPub}_{it} + \beta_3 OwnPub_{peerUn}_{it} + \\
 & \beta_4 OwnPub_{peerPub}_{it} + \alpha Fundraising_{it} + \varphi \mathbf{X}_{it} + \mathbf{Z}_i + \mathbf{T}_t + \mu_{it}
 \end{aligned}
 \tag{1}$$

The β s are the coefficients of primary interest, showing whether a charity's donations rise and fall with the collective ratings of its different Peer groups. The four peer group cases are represented by the charity either having unpublished or published ratings and its peers likewise having either unpublished or published ratings. It is important to note here that the β s capture both the collective reputation and the substitution effects, which work in opposite directions, so that a positive β indicates that collective reputation effect is greater than the substitution effect. The subscript i denotes charities and t denotes year. α gives the correlation between charities fundraising and donations, which we expect to be positive. \mathbf{X}_{it} is a vector of explanatory variables (*score, own star rating, program spending, assets, and state spending*) with a corresponding row vector, φ , of coefficients. \mathbf{Z} is fixed effects for each charity, controlling time invariant attributes, such as its founding conditions. \mathbf{T}

is time fixed effects that control for shocks common to all charities in a year, such as economic recessions. μ_{it} indicates the error term, with standard errors clustered on the charity.

We conduct a second analysis to account for the possibility that collective reputations influence donations by changing the effort charities put into fundraising and thereby biasing the α coefficient in equation 1. To overcome this endogeneity, and because the effects on fundraising are also of interest, we use two stage least squares. This approach first models Fundraising as an outcome as shown in equation 2. The second stage then replicates equation 1 using the equation 2 fundraising fitted values in place of the raw fundraising measure.

$$\begin{aligned}
 \text{Fundraising}_{it} = & \theta_1 \text{OwnUnPeerUn}_{it} + \theta_2 \text{OwnUnPeerPub}_{it} + \theta_3 \text{OwnPubPeerUn}_{it} + \\
 & \theta_4 \text{OwnPubPeerPub}_{it} + \phi \text{Liabilities}_{it} + \boldsymbol{\rho} \mathbf{X}_{it} + \mathbf{F}_i + \mathbf{Y}_t + \varepsilon_{it}
 \end{aligned}
 \tag{2}$$

Here, the θ s are the coefficients of primary interest, showing whether a charity's *Fundraising* rise and fall with the collective ratings of its different *Peer* groups. As in equation 1, the four peer group cases are represented by the charity either having unpublished or published ratings and its peers likewise having either unpublished or published ratings. The remainder of equation 2 parallels equation 1 above. The dependent variable *Fundraising* effort is instrumented by charities' *Liabilities*. *Liabilities* are outstanding claims against a charity's assets, such as loans and mortgages. *Liabilities* are debts indicating charities may have to fundraise more. Thus ϕ should be a positive and significant coefficient. One requirement of an instrument is a strong relationship with the endogenous variable conditional on covariates; the F -stat when

excluding the variable in the first stage provides a statistical test verifying this. The other requirement is that *Liabilities* are uncorrelated with μ , the error term of the main regression. We cannot test this, because it is unobservable, however intuition and previous research supports the claim. Following Andreoni & Payne (2011), we argue that the amount of liability does not directly explain contributions because donors will not be aware of a charity’s debt and charities will not advertise it. \mathbf{X}_{it} is the same vector of explanatory variables with the coefficients designated by vector ρ . Again, \mathbf{F} and \mathbf{Y} are fixed effects for charity and year, respectively. ε_{it} indicates the error term, with standard errors clustered on the charity. The results below report three sets of analyses, with the first reporting peer groups’ effects on fundraising and the next two reporting the first and second stages of the two stage instrumental variable analysis.

5 Results

Table XXX (INSERT OR APPEND TABLE FOR EASE OF DISCUSSION) gives the overall effects of peer group ratings on charities’ own donations and fundraising, with the coefficients for the four different groups listed in the first four rows. The persistent result is reported in row one, which shows the effect of peer ratings when both the charity and its peers have published ratings. The row 1 results demonstrate that when a charity has a published Charity Navigator rating, its donations rise and fall with the published Charity Navigator ratings of its peers. For these cases, a one unit (star) increase in the average rating of a charity’s peers increases the charity’s donations by about 3.0%, holding constant the factors in the model. Column (2) shows that collective reputation also influences charities’ fundraising effort when both the charity and its peers have published Charity Navigator ratings. A one

	(1)	(2)	(3)
	Ln(Donations)	Ln(Fundraising)	Ln(Donations)
Rated peers, own rated	0.030 (2.44)*	0.113 (2.53)*	0.022 (1.86)
Imputed peers, own UNrated	-0.005 (0.55)	0.038 (1.27)	-0.008 (1.02)
Imputed peers, own rated	0.002 (0.41)	-0.023 (1.06)	0.004 (0.72)
Rated peers, own UNrated	-0.000 (0.04)	-0.005 (0.35)	0.000 (0.07)
Ln(Score)	0.013 (0.32)	0.261 (2.93)**	-0.006 (0.25)
Ln(Fundraising)	0.031 (10.46)**		0.099 (3.28)**
Ln(Prog Expenses)	0.033 (8.50)**	0.049 (7.75)**	0.029 (13.13)**
Ln(Assets)	0.388 (12.70)**	0.463 (20.70)**	0.353 (21.10)**
Ln(State Spending)	0.070 (3.08)**	0.177 (2.61)**	0.057 (3.13)**
Ln(Liabilities)		0.066 (8.48)**	
Own rating, Star0, CN	-0.359 (4.33)**	-0.872 (3.44)**	-0.299 (4.25)**
o_star1_L2	-0.240 (4.72)**	-0.774 (4.45)**	-0.189 (3.74)**
o_star2_L2	-0.240 (4.99)**	-0.716 (4.33)**	-0.192 (4.04)**
o_star3_L2	-0.195 (4.03)**	-0.712 (4.30)**	-0.147 (3.09)**
o_star4_L2	-0.159 (3.26)**	-0.521 (3.10)**	-0.125 (2.73)**
star1_L2	-0.017 (0.46)	-0.175 (1.94)	-0.005 (0.19)
star2_L2	0.021 (0.45)	-0.220 (2.02)*	0.037 (1.27)
star3_L2	0.020 (0.38)	-0.278 (2.28)*	0.040 (1.22)
star4_L2	0.048 (0.85)	-0.433 (3.25)**	0.079 (2.14)*
Observations	38878	38854	38854
Number of Groups	3424	3413	3413
R-squared	0.34	0.16	

Robust t statistics in parentheses

* significant at 5%; ** significant at 1%

unit (star) increase in the average published rating of a charity's peers increases the charity's *Fundraising* by about 1.13%, holding other favors in the model constant. Charities spend more on fundraising when Charity Navigator publishes more positive ratings about their peers, perhaps in an effort to differentiate themselves in a more competitive market. Column (3) reports the two stage results that seek to account for the influence of collective reputations on spending efforts. Adjusting for the effect of collective reputation on fundraising reduces the effect of collective reputation on donations. A one unit (star) increase in the average published rating of a charity's peers increases the charity's donations by about 2.2%, holding other favors in the model constant.

Rows 2 and 3 provide the results for the effects of the unpublished ratings of charities' peers. In both donations models (Columns 1 and 3), the coefficients' for unpublished peer ratings are close to zero and statistically insignificant. Likewise, the fundraising model (Column 2) suggests that the unpublished ratings of charities' peers do not affect their fundraising. In other words, the empirical analyses fail to a collective reputation among charities when Charity Navigator does not publish the ratings of their peers. Row 4 provides the effects of peer reputations on the donations of charities with published Charity Navigator ratings when their peers' ratings are unpublished. Again the peer ratings coefficients in all three columns are close to zero and not statistically significant.

The control variables have the direction and magnitudes that are consistent with intuition, underlying theory, and previous literature. Higher own *Score* does not affect donations, but has a significant and positive coefficient in the *Fundraising* model (Column 2). The published and unpublished star ratings, represented by dummy variables for 0 to 4 stars, are consistent with results previously reported (Grant 2010). Coefficients on *Program Services* and *Assets* are positive and significant, which is

supported by previous research and anecdotal evidence (Cites). The results for *State Spending* in categories related to the charity indicate to some extent whether the state budgets are complementary or substitutable for fundraising and donations. Though endogeneity in state decisions may be occurring, the variables all seem complementary; that is, for positive changes in state spending, there is more fundraising and more donations. The variable *Liabilities* is the instrument for fundraising effort. Two criteria need be met. The first is the exclusion restriction, that the variable is uncorrelated with the error term in the donations equation. While formal test for this criteria are unavailable, a few indications support its validity. Liabilities are not well correlated with donations and not significant when included in the regression. The second is that *Liabilities* need be relevant to *Fundraising*, which is demonstrated by a large F-stat when excluding the *Liabilities* variable from the first stage: $F(1, 35410) = 71.88$ suggests an effective instrument.

6 Conclusion

Charities operating in the same policy area and in the same state have a collective reputation that affects the donations they receive. Using a sample of 3,120 charities from 1993 to 2008, with data from the Charity Navigator charity ratings website, charities' IRS 990 filings and the US Census of Governments, this paper shows that charities' donations increase as their peers' collective reputation becomes more positive and falls as it becomes more negative. When the ratings of a charity and its peer group are both published by Charity Navigator, a one star increase in the peer group's ratings increases the charity's donations by about 3.0 percent. We do not find evidence of collective reputations among charities in the absence of published Charity Navigator ratings. Together, these findings suggest that Charity Navigator

generates a collective reputation by identifying charities' peer groups and providing donors information about their quality. Donors then adjust their giving to charities in response to information about their peers.

Taken as a whole, these results suggest that Charity Navigator creates the conditions for collective reputation by identifying a charity's peers and publishing information about their quality. If a sufficiently strong collective reputation existed among charities in the absence of Charity Navigator's ratings, and assuming our peer classification strategy is reasonably accurate, the unpublished peer ratings would have been positively correlated with donations. The absence of such a statistically discernible relationship suggests either the absence of a collective reputation or the inadequacy of our peer classification strategy. Collective reputations may not map to state boundaries, as our classification assumes; for example, there may be regional collective reputations among environmental charities and city level collective reputations among homeless shelters. The finding that publishing Charity Navigator ratings creates a collective reputation suggests a potential collective action problem among charities.

Collective reputations among firms and charities means that their fortunes can rise and fall with the behavior of their peers. One firm's bad malfeasance has negative externalities through the damage it inflicts on the reputations of its peers. A collective reputation misaligns incentives: individual charities' and firms' investments in behaviors that produce positive collective reputations are likely to be below their group's optimum. In other words, a collective reputation raises the specter of a collective action dilemma among peer charities, with important implications management and strategy. A firm or nonprofit facing the dilemma of a collective reputation may look to differentiate itself from its peers through the products and services it offers, perhaps buttressed by more assertive marketing. When such differentiation is not

technologically or economically feasible, firms and nonprofits operating under a common reputation can look for collective governance institutions to regulate behavior among their group. Such regulations can come through government mandate, such as the Department of Agriculture's rules for organic products, or through collective self-governance, such as industry association's voluntary programs like Responsible Care.

The empirical results from this paper also suggest directions for future research. Future research should investigate the efficacy of differentiation strategies and governance to mitigate collection reputations' downsides. Collective reputations' power may vary across circumstances. Collective reputations may be stronger when consumers and donors have more uncertainty about firms and charities, such as when their products and services are difficult to evaluate and when firms and charities are not easily differentiated.

7 References

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